

Work Order ID 76927

76927

Page 1

Wednesday, November 23, 2011 3:41:59 PM

Item ID: D205-634-041

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Replacement Skidtube

Start Date: 11/23/2011 Start Qty: 1.00

1

Cust Item ID:

Required Date: 12/9/2011 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date: 11/23

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D2580-041

Rev.E

0.00

0.00

0.00

0.00

100

100

DC

Document Control

DOCUMENT CONTROL

Memo

Photocopy D205-634 bluefile & type labels per PPD D205-634-041 CHG002

110

110

CNC Bend 1

CNC Delta 100 Bender

BENDING MACHINE - SKIDTUBES

Memo

1-Bend as per program D2580.C on CNC Bender and Form 16

2-Cut tubes as per Dwg. D2580

3- scribe batch# in aft end of tube

SCRAP

Scrap

1 0 SAD 12-01-30

W/O: 76927		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D205-634-041 PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
12.02.03	140	3 Sets of wear shoe holes drilled in wrong location.	GP 12.02.03 Q51042	SCRAP TUBE. SEE D.S. EMAIL			GP 12.02.03 Q51042	
				see Back of Par 3. 8/2/04				

NOTE: Date & initial all entries

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120		0.00							
120									
Skidtubes	Memo	0.00							
Skidtubes	1- Deburr ends and remove bending marks								
	2- Prepare tube for welding as per QSI 004								
130	QC5- Inspect part completeness to step on W/O	0.00							
130									
QC	Memo	0.00							
Quality Control									

① CF 12-1-31

1 12-01-31

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

140

0.00

140

Skidtubes

0.00

Skidtubes

Memo

1-Weld step D2576 as per Dwg. D2580 and QSI 004
A/R Aluminum Rod *M 119712*

2-Grind welds on step as per Dwg D2580 *SAO 12-02-01*

3-Weld spacers as per dwg D2580 *N/A*

3- ~~N/A~~ Insert D4202-1 spacer, swage as per QSI002 and trim/ grind flush per QSI002 and dwg. Hold x-bolt with DT9701 Use tube expander 1/2 x17G to start expansion and finish with 1/2 x 18G to achieve dwg dimension.

4-Drill holes for wearplates using DT 8217 & DT8937 Open holes to 19/64", adjust stopper not to hit web. Debur

6-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Debur

7-Drill pilot holes for Tow ring using DT8091, open to .640" and Debur

3 *SAO* *12-02-02*

W/O: <u>16927</u>		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D205-634-041 PAR #: _____ Fault Category: Landig gear NCR: Yes No DQA: 12/2/8 Date: 12/2/8
12-1185 Resolution: Scrap Disposition: Scrap QA: N/C Closed: 12/2/8 Date: 12/2/8

NCR:		WORK ORDER NON-CONFORMANCE (NCR) # <u>1412.67</u>						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
12/02/02	146-4	Found that the FWD wheel plate has one driver in wrong location R.C. L.O.A. new employee Please sig on way set	<u>12/02/06</u> <u>12/04/2</u>	Scrap + Destroy nol. + bbb to fix Give to Eng. (Dan Stow)	<u>12-02-06</u>	<u>12/02/06</u>	<u>12/02/06</u> <u>12/04/2</u>	<u>12/02/06</u>
		p has. lack of information						

NOTE: Date & initial all entries

Work Order ID 76927***76927***

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Required Date: 12/9/2011 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150 *150* QC Quality Control	QC10- Inspect visual per QSI004- ground welds Memo	0.00 0.00		5126262					
160 *160* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00		5126262		ED			
170 *170* HandFinish Hand Finishing	Pressure Wash per QSI005 4.3 Memo Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch and leave fwd cap out of solution.	0.00 0.00		SCNAN					

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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Cust Item ID:

Required Date: 12/9/2011 **Req'd Qty:** 1.00

*** 1 ***

Customer:

Reference:

Run Start *NR1*

Approvals: _____ **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Stop *NR2*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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180	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00
-----	--	------

180

Powdercoat

Powder Coating

Memo

START TIME: _____
OVEN TEMPERATURE: _____
FINISH TIME: _____

190	QC3- Inspect Part Finish	0.00
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190

QC

Quality Control

Memo

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Start Date: 11/23/2011 Start Qty: 1.00

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Cust Item ID:

Required Date: 12/9/2011 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

200

0.00

200

HandFinish

Hand Finishing

Memo

0.00

1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates

A/R Sikaflex-291 _____

Sikaflex expire date: _____

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive

A/R Sikaflex-291 _____

Sikaflex expire date: _____

5-Wing Walk as per Dwg D2580 and QSI 005 4.4

Batch: _____

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Work Order ID 76927***76927***

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Wednesday, November 23, 2011 3:42:00 PM

Item ID: D205-634-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Replacement Skidtube
Start Date: 11/23/2011 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 12/9/2011 Req'd Qty: 1.00 ***1*** Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210	QC5- Inspect part completeness to step on W/O	0.00							
210									
QC	Memo	0.00							
Quality Control	Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024								
220		0.00							
220	Packaging								
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPPD205-634-041 Location: _____ PPP Rev: _____								
230	QC21- Final Inspection - Work Order Release	0.00							
230									
QC	Memo	0.00							
Quality Control									

1202-6
P

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Wednesday, November 23, 2011 3:42:05 PM

Work Order ID: 76927

76927

Parent Item: D205-634-041

D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 11/23/2011

Required Date: 12/9/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30
KJ IPP Rev P 10.02.19
per PAR09-043 EC verified by:DD
IPP Rev. O 06.02.28 Added paperwork EC
IPP Rev:P 07-07-09 SS Wearplates & Gaskets JLM IPP Rev:Q
10.12.01 as per chg003 DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D4202-1		Manufactured	No			140	Each	492.0000	20	20			
---------	--	--------------	----	--	--	-----	------	----------	----	----	--	--	--

D4202-1

Spacer

**

Location	Loc Qty	Loc Code
LG002	492	
66929 B77729	106	
67129	196	
67308	1	
67430	140	
72639	49	

(20) 12-02-1

D2580-1		Manufactured	No			110	Each	12.0000	1	1			
---------	--	--------------	----	--	--	-----	------	---------	---	---	--	--	--

D2580-1

205 Skidtube bent detail

**

Location	Loc Qty	Loc Code
LG	12	
72965	1	
76174	2	
76175	2	
76510	2	
76511	1	
76570	2	
76571	2	

SAD 12-01-30

B78702 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Wednesday, November 23, 2011 3:42:05 PM

Work Order ID: 76927

76927

Parent Item: D205-634-041

D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 11/23/2011

Required Date: 12/9/2011

Start Qty: 1.00

Required Qty: 1.00

D2576-3 Manufactured No

140

Each

104.0000

1

1

D2576-3

Step (maching detail)

*******BE 12-01-31*LocationLoc QtyLoc Code

LG

104

66156

4

70883

50

74136

50

D2855 Manufactured No

200

Each

51.0000

1

1

D2855

Cap

******LocationLoc QtyLoc Code

FP002

49

73347

49

FP007

2

65519

2

AN3-5A Purchased No

200

Each

886.0000

2

2

AN3-5A

Bolt

******LocationLoc QtyLoc Code

ST350

886

115371

46

117423

340

118626

300

119355

200

AN960JD10L NAS1149D0332J Purchased No

200

Each

0.0000

2

2

***AN960JD10L ***

Washer

Wednesday, November 23, 2011 3:42:05 PM

Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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76927

Parent Item: D205-634-041

D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 11/23/2011

Required Date: 12/9/2011

Start Qty: 1.00

Required Qty: 1.00

ALS7-1032-130

Purchased

No

200

Each

1,455.000

50

50

AI S7-1032-130******

Insert

LocationLoc QtyLoc Code

ST281

113

117717

27

118966

86

ST282

1342

119530

1342

AN3C4A

Purchased

No

200

Each

1,675.000

50

50

AN3C4A******

BOLT

LocationLoc QtyLoc Code

ST350

1675

117313

2

117688

5

117872

10

118112

16

118451

2

118838

962

119328

678

AN960C10L

NAS1149C0332

Purchased

No

200

Each

0.0000

50

50

AN960C10L ******

washer

Wednesday, November 23, 2011 3:42:05 PM

Shop Packet Print

Page 3

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D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 11/23/2011

Required Date: 12/9/2011

Start Qty: 1.00

Required Qty: 1.00

D3566-13 Manufactured No

200 Each 21.0000 1 1

D3566-13

Gasket

Location Loc Qty Loc Code

FP 20

73322 20

FP014 1

68341 1

D3566-5 Manufactured No

200 Each 21.0000 1 1

D3566-5

Gasket

Location Loc Qty Loc Code

FP002 21

75069 21

D3566-1 Manufactured No

200 Each 15.0000 2 2

D3566-1

Gasket

Location Loc Qty Loc Code

FP002 13

74518 13

FP015 2

68924 2

D3564-11 Manufactured No

200 Each 12.0000 1 1

D3564-11

Wearshoe

Location Loc Qty Loc Code

FP001 12

74705 12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 11/23/2011

Required Date: 12/9/2011

Start Qty: 1.00

Required Qty: 1.00

D3564-13 Manufactured No

200 Each 27.0000 1 1

D3564-13

Wearshoe

Location Loc Qty Loc Code

FP001	7	_____
73323	7	_____
FP002	19	_____
75045	19	_____
FP017	1	_____
71594	1	_____

D3564-9 Manufactured No

200 Each 21.0000 1 1

D3564-9

Wearshoe

Location Loc Qty Loc Code

FP	2	_____
73345	2	_____
FP001	14	_____
75071	14	_____
FP019	5	_____
67590	4	_____
69943	1	_____

W/O:		WORK ORDER CHANGES					
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Parent Item: D205-634-041

D205-634-041

Parent Item Name: Replacement Skidtube

Start Date: 11/23/2011

Required Date: 12/9/2011

Start Qty: 1.00

Required Qty: 1.00

D3564-5 Manufactured No

200 Each 35.0000 1 1

D3564-5

Wearshoe

Location Loc Qty Loc Code

FG	2	
34806	2	
FP001	32	
74543	10	
76269	22	
FP019	1	
73330	1	

D2594-3 Manufactured No

200 Each 592.0000 16 16

D2594-3

O-Ring, 205 Skidtube

Location Loc Qty Loc Code

FP	394	
65518	41	
66952	55	
73490	298	
FP004	198	
73490	198	

D2594-1 Manufactured No

200 Each 208.0000 16 16

D2594-1

Plug, 205 Skidtube

Location Loc Qty Loc Code

FP	208	
73401	30	
74442	178	

W/O:		WORK ORDER CHANGES					
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NOTE: Date & initial all entries

LIST OF MATERIALS					
ITEM	QTY -041	QTY -045	QTY -047	PART NUMBER	DESCRIPTION
1	X			D2580-041	SKIDTUBE ASSEMBLY
2		X		D2580-045	SKIDTUBE ASSEMBLY
3			X	D2580-047	SKIDTUBE ASSEMBLY
4	1	1	1	D2500-1-190	EXTRUSION
5			16	D2570	BUSHING
6	1	1	1	D2576-3	STEP
7	20	24	25	D2579	SPACER
8	16	16	8	D2594-1	PLUG
9	16	16	8	D2594-3	O-RING
10	1	1	1	D2596	205 WEB
11	1	1	1	D2855	AFT CAP
12	1	1		D3564-5	WEARSHOE
13	1	1		D3564-9	WEARSHOE
14	1	1		D3564-11	WEARSHOE
15	1	1		D3564-13	WEARSHOE
16	2	2		D3566-1	GASKET
17	1	1		D3566-5	GASKET
18	1	1		D3566-13	GASKET
19			1	D4406-041	WEARPLATE ASSEMBLY
20			1	D4406-043	WEARPLATE ASSEMBLY
21	50	50		ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
22	50	50		AN3C4A	BOLT
23	2	2	2	AN3-5A	BOLT
24			8	AN4-45A	BOLT
25	50	50		NAS1149C0332R	WASHER (AN960C10L)
26	2	2	2	NAS1149D0332J	WASHER (AN960JD10L)
27			8	MS21042-4	NUT (OR MS21042L4)

GENERAL NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ASSEMBLY (-041/-047) GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
POWDER COAT ASSEMBLY (-045) GREEN SANDEX (REF 4.3.5.8) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4.
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: D2580-041 = 34.5 lbs
D2580-045 = 34.5 lbs
D2580-047 = 37.7 lbs
- 8) WELDING PER DART QSI 004.
- 9) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 10) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 11) USE DART DRILL TEMPLATE DT8217 & DT8937 ONLY FOR D2580-041/-045 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTIONS B-B AND F-F (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND NAS1149C0332R WASHERS WITH SIKAFLEX-241/291.
- 12) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES FOR D2580-041/-045 AND 8 PLACES FOR D2580-047)
- 13) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE WITH THE SPACER AT THIS LOCATION

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WORK ORDER
NO. 70927

211-11-23

E	ADD D2580-047 (ZN C4-7) AND D2580-7 (ZN B3-8); INCLUDED DEO D2580-D-1; REFORMATTED DRAWING TO CURRENT STANDARDS; DT8217 & DT8937 WAS TD2577-205 (ZN C4-1)	RF	11.06.21
D	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/ 9183	PH	07.04.05
C	REDRAWN, INCLUDED DEO 9094/ 9097	CP	98.08.26
B	AS MANUFACTURED	DS	96.12.02
A	NEW ISSUE	DS	96.09.16
REV.	DESCRIPTION	BY	DATE
DESIGN	#		
DRAWN	RF		
CHECKED	AP		
MFG. APPR.	DS		
APPROVED	AP		
DE APPR.	#		
DATE	11.06.21		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. D2580
REV. E
SHEET 1 OF 8
TITLE 205 SKIDTUBE ASSEMBLY
SCALE NTS

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8

7

6

5

4

3

2

1

D

D

C

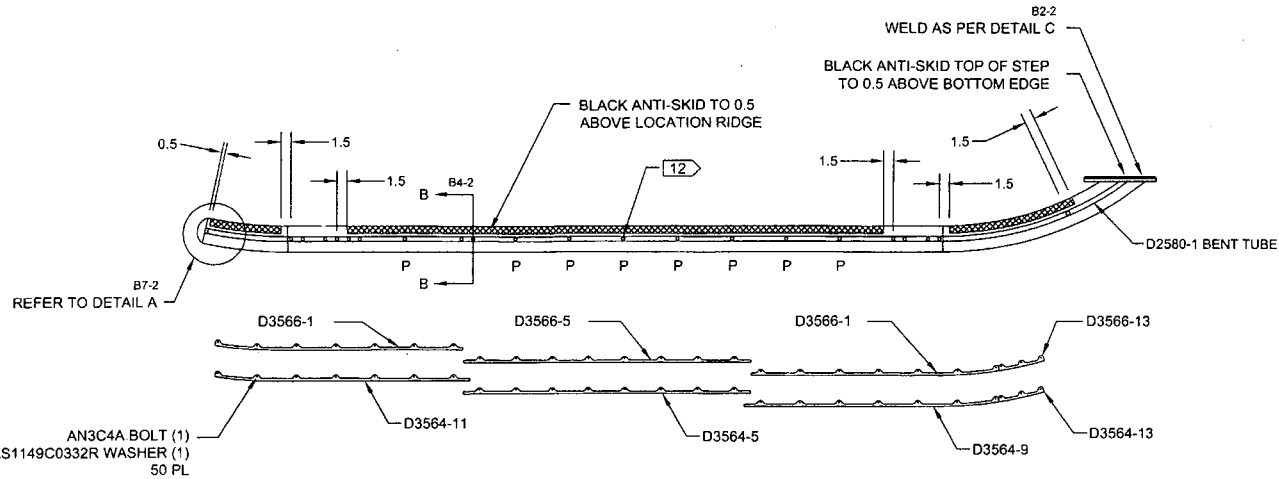
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B

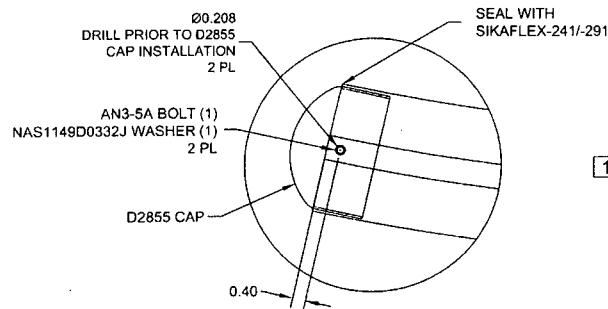
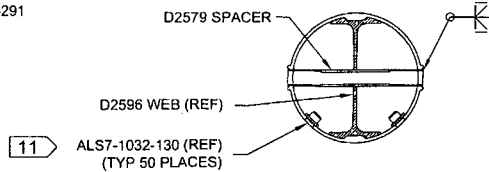
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A

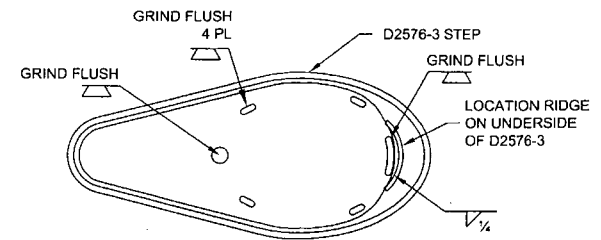


D2580-041 ASSEMBLY DETAIL

DETAIL A
SCALE 5XSECTION B-B
SCALE 5X

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

DETAIL C
SCALE 5X

DESIGN	#	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AP	DRAWING NO.	REV. E
MFG. APPR.	N	D2580	SHEET 2 OF 8
APPROVED	AP	TITLE	SCALE
DE APPR.	AP	205 SKIDTUBE ASSEMBLY	NTS
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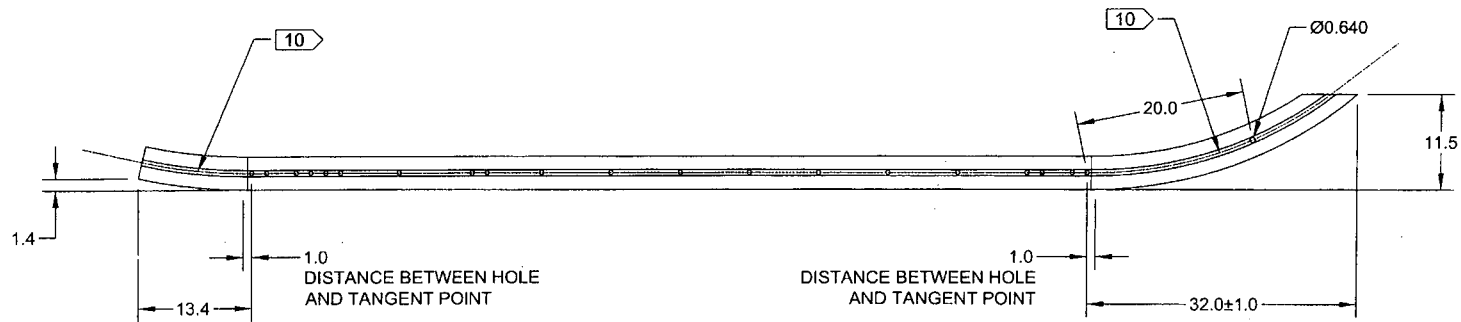
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2580-1 BENT TUBE
(MAKE FROM D2580-101 TUBE)

16927
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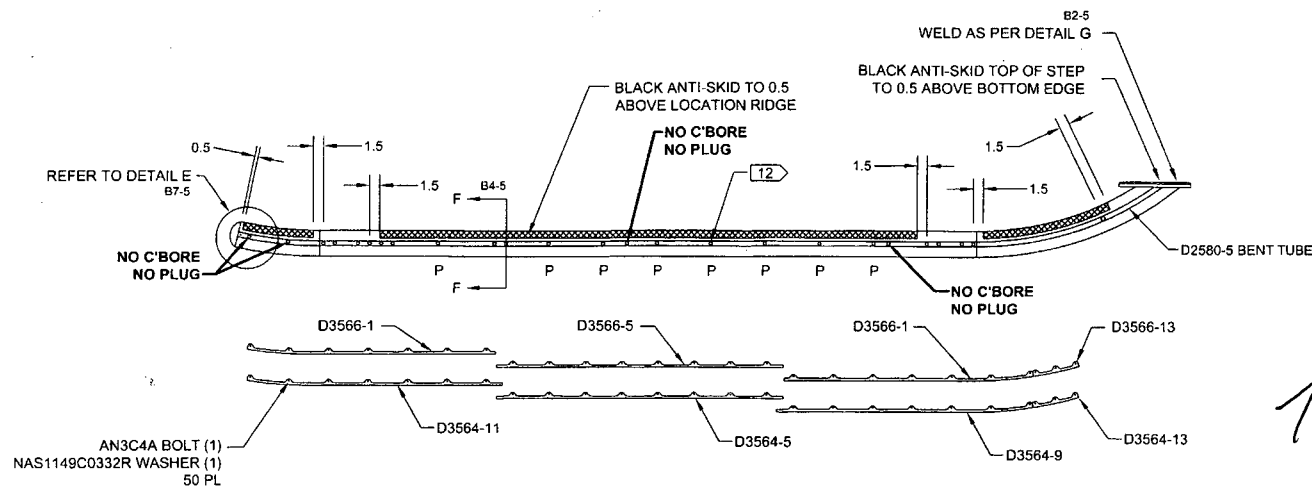
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

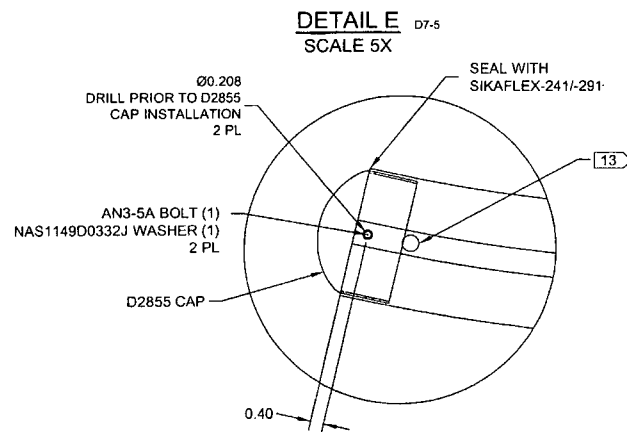
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

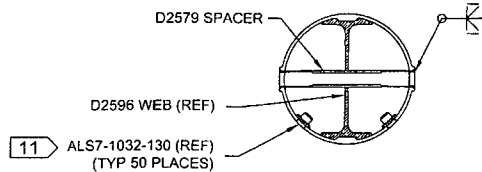
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D2580-045 ASSEMBLY DETAIL

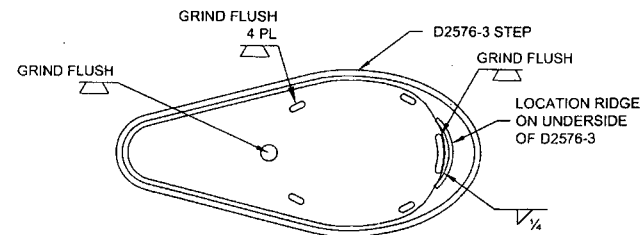


SECTION F-F D5-5
SCALE 5X



**AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:**

- 1. CHAMFER HOLE 0.050 X 45°**
- 2. INSERT D2579 SPACER (24 PLACES)**
- 3. WELD INTO PLACE AND GRIND FLUSH**
- 4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP**



DESIGN	4	DART AEROSPACE LTD	
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DE APPR.	4	205 SKIDTUBE ASSEMBLY	NT
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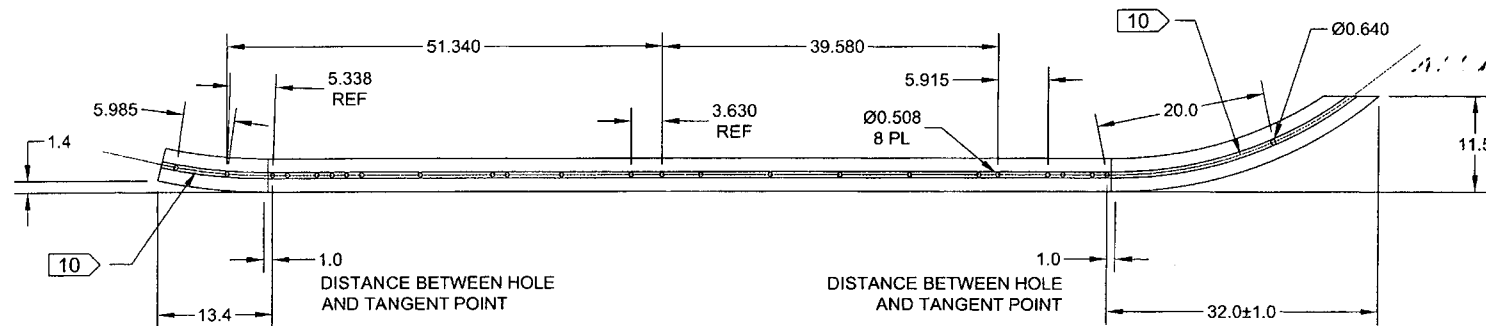
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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D2580-5 BENT TUBE
(MAKE FROM D2580-101 TUBE)

76927

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DESIGN	#	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
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MFG. APPR.	RP	D2580	SHEET 5 OF 8
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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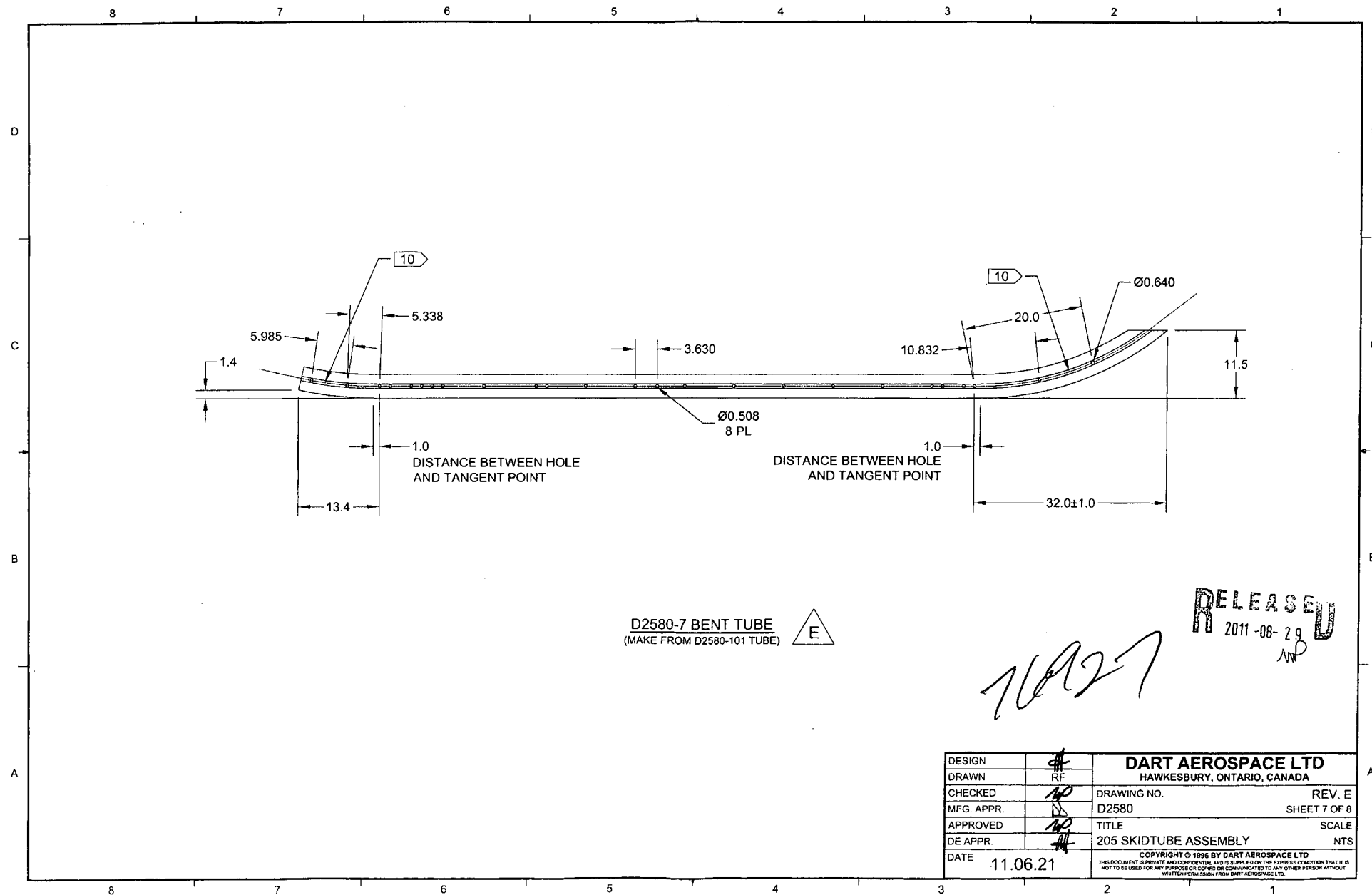
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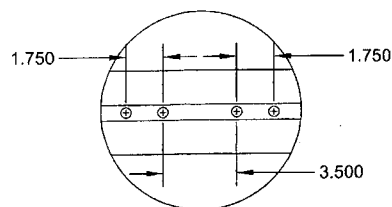
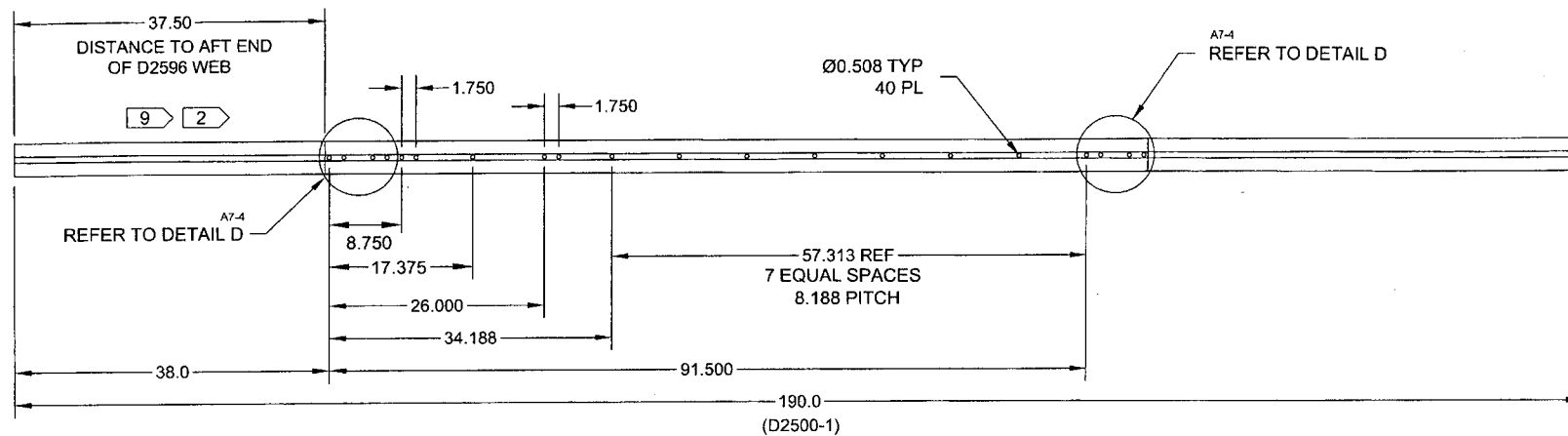
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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DETAIL D D34
SCALE 5X C7-4

D2580-101 TUBE

DESIGN	#	DART AEROSPACE LTD	
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MFG. APPR.	10	D2580	SHEET 8 OF 8
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Chris Provencal

From: David Shepherd <dshepherd@dartaero.com>
Sent: Friday, February 03, 2012 12:05 PM
To: 'Bill Beckett'; Pat Smith
Cc: 'Chris Provencal'; Mike Petsche
Subject: FW: NCR-D205-635-011
Attachments: NCR-D205-634.jpg

Chris,

I would agree ... I think it would be better to scrap the tube than to risk cracking in the field in those areas due to a weld repair.

Bill/Pat,

Something for you to look into ... Perhaps we don't have a murphy-proof setup here.

David

From: Chris Provencal [<mailto:cprovencal@dartaero.com>]
Sent: February-03-12 7:19 AM
To: David Shepherd
Cc: Mike Petsche
Subject: NCR-D205-635-011

David,

Qty(1) D205-634-011 Skidtube. They've drilled 3 sets of holes in the wrong location, they must have messed up locating their jig. I've attached a photo showing the problem. The photo is looking at the fwd part of the tube. They would have to fill with weld the 3 sets of holes indicated with the "F". They have more holes to drill fwd of these holes, they stopped drilling when they discovered the problem. The tube is otherwise complete except for the finish.

One of the holes is next to the saddle area, which according to the ICA is a no-go for welding, so I would personally consider it scrap on that basis.

-Chris